

TRANSACTIONS

OF THE

CHICAGO SURGICAL SOCIETY.

Stated Meeting, December 7, 1903.

The President, E. WYLLYS ANDREWS, M.D., in the Chair.

KELOID TREATED BY X-RAYS.

DR. WILLIAM M. HARSHA presented a young man, eighteen years of age, who had a small growth behind the right ear for ten years; when it attained the size of an ordinary marble, five years ago, it was excised; the skin was loosened up around it, and primary union was obtained; but in three or four months the tumor was as large as ever. It grew to be twice the size it was formerly. Examination showed the characteristic histological formation of keloid. It was removed three times at intervals of a year or a little more, the last time about two years ago, then it had grown a little larger than it was previously. X-ray treatments were then begun and were given at intervals of two or three days, but were not regularly kept up. He had not had frequent treatments by the X-ray in the last six months. The growth now showed not more than one-sixth of its size when the treatment was begun; it was still getting smaller.

DR. A. J. OCHSNER said that the treatment of keloid by means of the X-ray was worthy of a good deal of attention. In several cases in which this treatment had been used, in which the keloids had been removed, and had gotten worse after removal, the improvement was very marked afterwards by the X-ray treatment. In one of the cases the keloid diminished to a very slight thickening, so that before removing any keloid now one should treat it thoroughly with the X-ray.

PANCREATIC CYST.

DR. HARSHA reported the history of the following case: A man, twenty-nine years of age, developed typhoid fever, beginning October 10, 1901, which lasted ten weeks. Before recovery was complete, a tumor appeared above the level of the umbilicus, to the left of the median line. When first discovered it was the size of the fist. It continued to increase in size and to extend until March 20, 1902, when it completely filled the abdomen except the right inguinal region. Fluctuation was plain, the contour smooth and almost symmetrical. Abdomen tense with very slight tenderness, temperature reading at 100 at times. Constipation obstinate, once or twice formidable obstruction of the bowels was present. Most prominent part of swelling on left side a little below the level of the umbilicus. Nutrition was impaired, but patient was not emaciated. Urine normal except somewhat high specific gravity, 1026. There was no jaundice, glycosuria, or fatty stools. April 2, 1902, incision was made and two gallons and a half of fluid evacuated. The first fluid to discharge was serous and amber colored; this fluid was about half the total amount. The remainder of the discharge looked like pus, was odorless and less than the usual consistence of pus. A large tube was inserted surrounded by gauze packing to protect the peritoneum. More fluid drained away during the ensuing week, after which the tube was replaced by gauze. The wound was kept open for three or four weeks, when it was allowed to close. The patient returned to his work apparently well, and soon regained his usual weight.

The examination of fluid was negative. No tubercle, typhoid, or other bacilli or cocci were found. No reaction of pancreatic fluid. Examination by Dr. F. G. Harris, then at Cook County Hospital, and pathologist at the College of Physicians and Surgeons Clinic. The purulent portion appeared like sterile pus.

September 1, 1902, the man came back with a return of the tumor. This time it was about the size of a large cocoanut, now filling the half of the left side of the abdomen. Fluctuation plain, no temperature, loss of weight or other disturbance. Resonance could be made out above and to the left side of the tumor. September 9, 1902, incision was made at site of scar from former operation.

Cyst wall presented, and was followed upward to find the colon above and over the front of it, extending to the pancreas. One-half gallon of fluid was evacuated. The report of examination by Dr. F. G. Harris is as follows:

The specimen was a thick, turbid fluid of a reddish-brown color, containing thicker grayish-brown mucoid masses; on standing, it deposited a grayish-brown sediment in abundance. Specific gravity, 1030; reaction, alkaline; albumen, present; albumen, 17 per cent. Purdy's method; mucin, absent; blood, present; sugar, absent; urea, trace; steapsin, absent; amylopectin, absent; trypsin, absent.

Microscopic examination showed a large number of red and white blood-cells, no concretions, no cholesterin crystals.

Gauze packing was done, and cyst drawn up into the opening in abdomen and incised. The cyst wall was one-eighth of an inch thick; and a start was made to detach the cyst wall proper from the peritoneum, but this seemed so formidable that it was thought best to stitch the edge of the opening to the abdominal peritoneum. A large tube was again inserted. This kind of drainage has been continued. The large cavity of the cyst has gradually diminished in size until the present time.

The patient had uninterrupted recovery after each operation, and is apparently in perfect health. He is now working as a guard on the elevated railway. The wound is irrigated from one to three times per week and is dressed every other day. He had used strong iodine and almost pure carbolic acid in the cavity a few times for its more thorough disinfection, to destroy the secreting surface, and for the purpose of promoting its cure, but had seen no marked benefit. The discharge is little more than from any sinus of this size. No unusual irritation of the wound. The location of the tumor and remaining fistula indicate that the cyst came from nearer the tail than the head of the pancreas. The incision was made at this site because the tumor was more prominent here. (Patient presented.)

In the *ANNALS OF SURGERY*, February, 1903, in discussing the etiology of pancreatic cysts, Charles G. Cumston says that very little is known about it. He accepts the classification of Körte:

- Retention cysts from obstruction of the excretory duct.
- Proliferation cysts of the pancreatic tissue.

Retention cysts originating from the glandular vesicles and smaller excretory ducts, the result of chronic interstitial pancreatitis.

Pseudocysts which arise from inflammatory or traumatic lesions.

Robson and Moynihan add congenital cystic disease and hydatid cysts, which latter are also found in other classifications (R. and M., page 189, "Diseases of Pancreas"). They include under the head of proliferation, cysts, cystadenoma, and cystic epithelioma.

The direction of the fistula now points to a part of the pancreas nearer the tail than the head. The more common location of these cysts is above the transverse colon.

Gussenbauer is credited with the first operation of this kind in 1882, *i.e.*, incision and drainage. The mortality after complete or even partial extirpation has been quite high.

In reviewing the subject of operations on pancreatic cysts, Benjamin T. Tilton (*ANNALS OF SURGERY*, July, 1902) quotes Boeckel's report of 115 cases. In ninety-nine cases operation concluded in one sitting, incision and drainage, with ninety-two recoveries and seven deaths; while sixteen cases operated in two sittings all recovered. Twenty-four cases collected by the same writer of complete or partial extirpation, of this number four died. Owing to the deep and postperitoneal situation and its proximity to important structures, it hardly seems justifiable to attempt extirpation. Operation at two sittings, if infection is suspected, is of course the one of choice.

The fistula in this case has now persisted about fourteen months, and is not due to continued secretion so much as the large cavity and thick walls. It has been injected with tincture of iodine and cauterized with 95 per cent. carbolic acid to destroy the secreting surface, to disinfect and promote its cure. Cases are reported where the fistula remained open several years.

In the section of Nothnagel's practice devoted to diseases of the pancreas, Oser says (p. 181) he has only found in literature 134 cases of pancreatic cyst. He refers to Professor Senn's contribution, and accepts the theory that retention can no longer be considered the chief cause. In this series, diagnosis was made only twenty-seven times (in 134 cases) prior to operation. The ideal operation, of course, is extirpation, but the high mortality

is a strong argument in favor of simple drainage. If this does not cure, extirpation can be more safely done at a later operation, when the size has so greatly diminished.

DR. L. L. MCARTHUR said he had presented a case of cyst which began in the head of the pancreas, extended down into the pelvis, and became adherent to the bladder, rectum, and intestines, giving symptoms that first attracted the attention of the patient to his right abdomen. On examination, the speaker found a large fluctuating mass, from which by aspiration was obtained a fluid which converted starch into glucose. He therefore decided that the case was one of pancreatic cyst. Operation was performed and the cyst excised.

In regard to these cysts, the treatment which had given the best results, though not the lowest mortality, had been total ablation of the sac, which may have been impossible in the case reported by Dr. Harsha. There was one interesting fact in connection with the ablation of the cyst in the particular case he had, namely, that its origin was so close to the head of the pancreas, that when the stump of the ligated cyst (which was ligated with an elastic ligature) came away, there was a biliary pancreatic fluid and fistula; bile regurgitating from the common pancreatic duct up into the wound and out. However, the patient made a prompt recovery. The fistula did not persist long.

DR. A. E. HALSTEAD said that he had had an experience with two cases of pancreatic cyst. The first case he saw when he was an interne at the Cook County Hospital. He operated on a case of large pancreatic cyst which occurred in the service of the late Dr. Strong. The wall was extremely thin in this case, so that there was no possibility apparently at that time of removing the cyst. The cyst was therefore opened and drained. The patient, a middle-aged man, recovered.

Another case he presented to the Chicago Medical Society not long ago occurred in an elderly woman. The cyst wall was fully one-quarter of an inch thick, and it contained possibly two quarts of fluid. The cyst was dissected away from the peritoneum very easily, and apparently grew from the tail of the pancreas, because when he removed the cyst a piece of the pancreas came with it. He thought probably in the majority of cases these cysts could be enucleated, and if care was taken in separating the cyst wall from the retroperitoneal tissues, particularly

from the large vessels, like the aorta, there was very little trouble. When the whole tumor was removed, the results were much better than where the cyst was drained.

In his case the patient remained in the hospital about four weeks altogether, and when discharged the abdominal wound was entirely healed.

ACTINOMYCOSIS OF JAW.

DR. HARSHA related a third case, that of a man, fifty years of age, who was referred to him with a probable diagnosis of sarcoma of the jaw. The patient had a swelling of the size of a hen's egg at the angle of the jaw on the right side. He had no temperature, and was in good health in other respects. Family and personal history negative. He had two teeth extracted prior to the beginning of the swelling, which was noted five weeks before the patient consulted the reporter. Whether the extraction of these teeth had anything to do with the swelling he did not know. The swelling increased slowly, was quite hard around the edges, and he thought he could detect a little fluctuation, but was not absolutely sure about this. He suspected actinomycosis, advised operation, which was performed. The tissue was broken down and showed the characteristic appearance of a yellow purulent mass, and around this the tissue was almost as hard as gristle. It was much harder than he expected to find it. There was no connection with the bone or periosteum. The dissection was as thorough as possible; but the wound did not heal kindly. The skin was loosened to make a cover, and as little healthy skin as possible was excised, but the edges became inverted, and at one place underneath broke down, which at a second operation was thoroughly excised. The patient was then subjected to X-ray treatment for a while, shortly after which healing occurred. Iodide of potassium was given for six weeks. The slides showed the characteristic ray fungus, not in the tissue, but in the pus.

He had received a letter from the patient within a week stating that he was entirely well.

DR. A. J. OCHSNER said that in actinomycosis he thought the interrupted treatment was the treatment to use, giving large doses of iodide of potassium, say ninety grains, three times a

day, giving that for a week or three or four days, or as long as the patient would stand it; then interrupting it; then repeating the treatment, interrupted for a week at first, then for a month. In one case of actinomycosis in the region of the parotid gland, in which the disease had apparently entirely disappeared, it returned after a few months and caused œdema of the larynx. When the patient returned again he was almost suffocated. Evidently a small portion of the disease had been left at some point at which it could not be reached by the circulation. In these cases iodide of potash could be carried to a certain point, and as soon as absorption took place down to the parasite, the parasite would begin to grow again. This was the way in which veterinary surgeons treated actinomycosis successfully in cattle. Ninety grains was given three times a day, for at least three days or for a week, if the patient could take it, then was interrupted for a week. This was done two or three times, and then it was given for a week each month, for several months, and recurrence of the disease could be prevented in this way.

XANTHOMA INFANTUM.

DR. LOUIS A. GREENSFELDER reported the case of a boy, aged ten years, from the Jewish Orphan Asylum, who had had no serious illness until two years ago, when he suffered from extensive ringworm of the scalp. This was very obstinate to treatment, but ultimately was cured by the use of the X-ray.

The present affection dated back as far as the patient could remember, but did not cause any concern until the boy sustained an injury of the hand and was brought to him on account of it. No reliable family history could be obtained. The patient had two brothers, who were also inmates of the asylum, but showed no evidences of a similar lesion.

Physical examination of the patient, including a careful examination of the eye, mucous membrane of the pharynx, larynx, nose, and throat, showed absolutely nothing abnormal. Examination of the chest was negative. The liver showed slight enlargement, also the spleen. Blood examination was negative, also urinalysis. The only manifestations of the disease were found on the cutaneous surface and the tendons, chiefly the extensor digitorum communis, extensor hallucis longus, and

tendo-Achilles. On the anterior aspect of the chest were small pedunculated growths, slightly umbilicated, which sometimes might be confused with beginning xanthoma, but are molluscum contagiosum. On the left side was a circular tumor, slightly elevated, soft, velvety, of sulphur color; the centre of which is scar tissue, results of a vaccination. The symmetry of the lesion was quite striking. A tumor on the right arm was removed. The tumor involving the right buttock, also one on left buttock, is characteristic of infantile xanthoma; also characteristic manifestations are in the tendons. The one involving the extensor digitorum communis required the removal of one inch of the tendon, and tendon suturing was resorted to. There is a tumor of both tendo-Achilles and two on each extensor hallucis longi.

The following was the report of the pathologist:

The specimen was fixed in Flemming's fluid and stained by safranin. The epidermis does not show any changes except a flattening out of the epithelial layers caused by the hypertrophy of the derma. The latter is rather cellular. The cells are of a fusiform embryonal type, and they are contained in a matrix of fibres. These are partly ordinary connective-tissue fibres, partly coarse, yellow elastic fibres. The involuntary muscular fibres are also increased, and there are found bundles of them here and there which are not in direct connection with the arrectores pilorum. Fat in larger masses is found in the subcutaneous connective tissue. Many of the cells of the deeper layers of the derma show very fine fat granules stained blackish-brown by the osmic acid of the fixing fluid.

Dr. Greensfelder said that xanthoma was a benign connective-tissue new growth, with subsequent partial fatty degeneration. These tumors were found chiefly upon the portion of the body exposed to trauma and friction, such as the elbow-joint, knees, etc. In this case nine tumors were removed from the anterior surface of the knee, five from the popliteal space, demonstrating the symmetry of the condition.

From the clinical and pathological findings, a diagnosis of the infantile form of xanthoma was made. This form differed from the xanthoma of adults, inasmuch as the condition was usually congenital or occurred early in life. There was no jaundice present. The ordinary form of xanthoma was the xanthoma planum, which usually occurred on the eyelids in

adults. There was the diabetic form of xanthoma. Xanthoma may occur on the mucous membranes of the pharynx, larynx, œsophagus, pericardium, endocardium, and liver. In those cases in adults in which there was jaundice, tumors have been found in the liver.

DR. CARL BECK had seen one case of marked xanthoma of this form, but not quite so extensive. He had used electrolysis, and had been able to destroy the tumors entirely by that means. He had later used electrolysis in a case of ordinary xanthoma of the eyelids with satisfactory results.

DR. GREENSFELDER said he did not think electrolysis would accomplish very much in cases other than those of xanthoma planum. Judging from the reports of cases, electrolysis had been tried in different cases where counterirritations of all kinds had been a failure. The infantile form of the disease differed clinically from the forms of xanthoma planum and xanthoma multiplex of the adult. In the infantile form we had a tumor growing not only in the skin, but evidently growing and involving the tendons and the joints. Often the tumors extended into the joint cavities themselves.

CONSERVATIVE SURGERY IN CRUSHING INJURIES OF THE ARM.

DR. DANIEL N. EISENDRATH reported the case of a boy, aged eighteen years, who, one and a half years ago, was admitted to the Cook County Hospital after having had a girder of a bridge weighing forty-six tons fall on the left arm at the foundry of the American Bridge Company. Two men were killed outright in the same accident. When seen by him, immediately after admission, the arm seemed so completely crushed as to necessitate amputation at the shoulder-joint. The extent of the injury was the following: There was a compound comminuted fracture of the left humerus, with extensive laceration of all the muscles on the outer side of the brachial region, and great destruction of skin. In addition, there was a complete crushing injury of the forearm of the same side. Here the ulna and radius were laid bare, and with the exception of a narrow zone of skin on the radial side there was complete destruction of the skin of the middle one-third of the forearm. Examination here showed

laceration of the muscles and tendons on both sides of the forearm, and in addition the ulna and radius were broken in many places in their middle third. The hand simply hung by a narrow pedicle from the forearm.

After thorough disinfection, he removed, with the assistance of the house surgeons, Drs. Cubbins and Lespinasse, all of the loose fragments of the humerus. When this had been done, two inches of the shaft were missing. In order to unite the two ends, it was necessary to drill through the entire thickness of the shaft in the upper fragment. The lower fragment, however, consisted for a distance of two inches of cortex only on the outer side, the inner aspect of the shaft having been removed. A skiagraph taken two weeks ago showed perfect union, the silver wire still being *in situ*. Measured from the acromion process to the external condyle, the left injured humerus was one and a half inches shorter than the opposite. At the time of admission the speaker thought it useless to try and save the forearm after he had finished wiring the humerus and packing and suturing of the wound in the soft parts. He decided, however, on account of the patient's youth, to attempt saving it. The credit for this belonged to the house surgeons, who were greatly interested in the case. He proceeded to wire the ulna and radius after removing the soft parts, which were hopelessly torn, and also many fragments of bone. Following the operation both wires came away spontaneously, having probably cut out. There was extensive sloughing of the soft parts, skin, tendons, and muscles, but the wound finally healed. The examination of the X-ray confirmed the appearance of the arm. There was union of the ulna, but not of the radius, and this caused a permanent pronation position. The patient could use the left arm from the elbow to the shoulder almost as well as the right. From the elbow down there was moderate strength. Patient could flex his fingers and extend his wrist somewhat. Taken altogether, the result was more satisfactory than an amputation at the elbow would have been, with the use of a hook, which such an operation would have necessitated. He proposed to improve the present condition at some future day by wiring the ununited radius. The case was an example of how one could save a member through perfect primary asepsis and the use of conservative methods.

ULCER OF LEG FOLLOWING TRAUMATIC THROMBOPHLEBITIS OF LOWER EXTREMITY.

DR. EISENDRATH said that this case was chiefly interesting on account of its probable etiology. Sixteen years ago the patient was caught in the falling of a house and his left leg was held down by a heavy rafter for over an hour before he could be released. The board fell across his groin. The limb from the thigh down began to swell immediately after the injury. There was no fracture or laceration of the skin. About three months later he noticed an ulcer on the outer aspect of the leg at its middle. In the speaker's opinion, there was a thrombosis of either the popliteal or femoral vein wall as the result of the above-described injury, and an ulcer had formed in the same manner as after typhoidal thrombophlebitis. The leg was greatly swollen from the knee down, and there was absence of varicose veins and of any of the evidences of syphilis or tuberculosis.

SPECIMEN FROM SEVEN MONTHS' ABDOMINAL GESTATION
REMOVED THIRTEEN YEARS LATER.

DR. JOHN B. MURPHY presented a specimen, accompanied with the following history:

A woman, forty-one years of age, was admitted to Mercy Hospital, November 18, 1903, on account of an abdominal tumor. She gave the following history:

Thirteen years ago she had an attack with sudden onset occurring during the night. The symptoms were: (1) pain, diffused over the abdomen during the entire attack and not more severe on one side than the other; (2) distention of the abdomen, and (3) diffuse tenderness. Patient did not know whether she had fever or not. There was no nausea or vomiting. She was confined to her bed for several weeks. Shortly after the onset of the trouble, her physician found what he thought was an abscess in the right tube. She was treated medically and by local applications for three months, at the end of which time it was discovered that she was pregnant. Operation on the tube was considered, but not performed. Abdomen enlarged for six or seven months, and towards the latter part of this time she "felt life." Motions then ceased, and death of the child was diagnosed.

Labor did not take place then, or at the end of nine months, and abdomen gradually decreased in size until it reached the normal. Soon after foetal death, a probable diagnosis of extra-uterine pregnancy with rupture was made.

Five years later she had a second attack of "peritonitis," and this time the trouble localized itself in the right iliac fossa, after first being general. A third attack occurred three years ago. A fourth occurred in October, 1902, and followed an induced abortion at two months. A fifth attack occurred last April. Patient was sick for three weeks. In July of this year (1903) she had a very severe attack. Pain was at first general over the abdomen, but after two or three days became localized in the right iliac region. The temperature was 103° F. for two weeks. No vomiting. Abdomen distended; patient in bed five weeks. Menstrual period was delayed three weeks in July; then she began to flow (after onset of attack), and it continued for two weeks. Since then and before that time the periods were regular and painless. Three weeks after this attack she passed considerable pus from the bowel for three days. None since. Six weeks ago she developed a temperature of 106° F. and had several severe chills. Pain and tenderness were localized in right iliac region, and she vomited a number of times. Since six weeks ago a pain has been present in the right lower abdomen quite constantly. She has been confined to bed practically all the time since July, 1903. Bowels were constipated all of the time. For the past four weeks the patient has complained of severe spasmodic pain in meatus urinarius, accompanied occasionally by a desire to pass urine. No pain when urine is passed. Patient urinates every three hours during the day and twice at night. No pain during defecation. Some leucorrhœa.

Previous history. One child living, aged eighteen years. Family history negative.

When patient was admitted to the hospital, there was considerable pus in the urine, but no pus in the stools. Rectal examination was negative. On examining the abdomen a mass was felt to the right of the umbilicus, extending across the umbilical region to the left side. Digital examination showed the presence of a mass close to the anterior abdominal wall just above the promontory, more to the right than to the left side. There was very little abdominal distention, but some tenderness over the

region of the appendix. A mass, hard, round, smooth, and immovable, could be felt just above Poupart's ligament on left side. It appeared to be adherent to the anterior abdominal wall.

During the time she was in the hospital before operation she had considerable pain in the external urinary meatus. No temperature at any time.

Operation was performed on the 24th of November. An incision was made to the left of the median line, through the left rectus muscle. As soon as the abdomen was opened, the fœtus immediately presented in the wound. The wound was retracted widely and the incision enlarged considerably so as to thoroughly expose the parts. The fœtus was then lifted out of the abdomen. The head rested at upper boundary of the right iliac fossa; body extended upward and to the left. There were no adhesions of the intestines. Adhesions were present between omentum and lower extremities of the fœtus to a little above the knees. These were organic and the feet were partially absorbed. The adhesions were ligated and cut off. There was no evidence of a gestation sac except the thin parchment membrane, chiefly comprising the fœtus. This was so firm as to fold the parts in close compression, thin and firm as a drawn hood; the arms were folded on the chest, the head flexed on the right shoulder, and the chin adherent to the shoulder. The fingers were perfectly preserved and mummified. No evidence of any connection between the fœtus and pelvic organs. After the fœtus was removed, the incision was extended downward and the pelvic organs examined. The tube on the right side was found closed at its fimbriated extremity and bound down, but not distended. It was evidently the site of primary gestation. The left tube was free. Springing from the left ovary was an ordinary dermoid of about the size of a fist. This was firmly adherent to the anterior abdominal wall and was inflammatory. The patient did not show any evidence of secondary infection; no abscess cavity was found in any place; dermoid did not communicate with intestine, and fœtus was not adherent to the intestine at any point. The dermoid was removed by loosening it from the adhesions to the anterior abdominal wall and to the bladder, to the left side and enucleated from the ovary; opening in ovary closed with catgut. The abdomen was closed without drainage, and the patient recovered.

After the fœtus and dermoid were removed, the appendix was investigated and found to be very materially thickened, the walls indurated and rigid, and the vessels on the peritoneal surface congested; it extended upward behind the cæcum and was very difficult to detach. The appendix was removed. Dr. Murphy thought possibly the irritation caused by repeated traumas to the appendix by the fœtal head might possibly have produced the chronic appendicitis which was present, and the acute attacks described in the history.

They were unable to account for the pus from the bowel, as there was no abscess cavity which could have discharged itself into the intestine, the bladder, or ureters, except it was from the appendix. Since the operation, pus in the urine had been very materially decreased, as was shown by the urinary examinations, but still causes some irritation.

POLYCYSTIC KIDNEY.

DR. ARTHUR DEAN BEVAN showed a large polycystic kidney. Polycystic kidneys were almost always symmetrical. Statistics on this point showed that polycystic kidney occurred on but one side in not more than 2 or 3 per cent. of the cases reported. In the great bulk of cases the condition was bilateral, and the conclusion which had been arrived at by operators was that because they were so frequently bilateral they should be left alone. He thought this conclusion was logical. This case, however, was an exception to the rule. The specimen presented was removed from a man about a year ago. The clinical symptoms were those of pain on the right side in the kidney region. He had considerable hæmorrhage and secondary anæmia from the hæmorrhage.

The usual oblique incision was made and the mass exposed. He could not determine the exact character of the mass until he had lifted the kidney tumor out on to the surface of the loin. Only after this had been done was it recognized as a polycystic kidney, and then he thought it was best to remove it. He ligated the pedicle, removed the mass, and had visions of anuria and death in a short time, because this had been the result in such cases. Much to his surprise, the man made an uninterrupted recovery from the operation, and had regained his health and

weight and strength. He now made plenty of urine of the proper quality, and had returned to work in excellent condition.

HYPERNEPHROMA.

DR. BEVAN exhibited a second specimen which was removed from a case of hypernephroma about a month previous. The symptoms were pain, excessive hæmorrhage, and profound secondary anæmia. No tubercle bacilli were found in the urine; no stone was found by the X-ray. A large kidney mass was felt. An exploratory operation was made and a tumor removed, which proved to be histologically hypernephroma. Part of the mass projected into the pelvis like a polypus into the vagina, and was responsible for the very free hæmorrhage which was encountered in the case, with profound secondary anæmia.

At a recent meeting of the Chicago Medical Society, the speaker had made the statement, after saying that he had encountered seven or eight cases of hypernephroma, that in his experience this form of tumor was the most common form of malignant tumor of the kidney. Exception was taken to this statement by one of the discussers. He found, however, that Israel's experience agreed with his own. He had made another statement to which exception was taken, namely, that in his experience they were accompanied by profuse hæmorrhage. The most severe hæmorrhages he had ever seen from the kidney had been in cases of hypernephroma, hæmorrhages where the patient would have profound secondary anæmia, where the bladder would fill up with clotted blood, making it difficult to empty that viscus. He believed that symptoms of any kind did not occur very often unless the hypernephroma had broken through the capsule, and that cases of hypernephroma which came to the surgeon were not, as a rule, of the benign type. They were only infrequently benign. They were the cases in which the hypernephroma had already broken through the capsule and had produced definite symptoms, and these hypernephromas were practically as malignant as sarcoma.

Two weeks after a normal recovery from the operation, the patient had a diarrhœa which could not be checked. One of the internes, Dr. Robinson, investigated the case carefully, examined

the fæces, and found in the fæces pieces of tissue which proved to be hypernephromatous tissue.

DR. S. C. PLUMMER reported the case of a man, sixty-eight years of age, who, fourteen months before operation, had a very profuse hæmaturia. He had never had anything of the kind before. The patient states that he passed almost pure blood. This alarmed him somewhat, but as he did not pass blood again he did not pay much attention to the first hæmorrhage, which proved to be the only one. There were practically no symptoms. The patient, about a year later, discovered the tumor himself accidentally one morning before rising from bed, and about that time he was beginning to show symptoms of malnutrition and weakness, but nothing pointing definitely to the kidney. The tumor which he removed was quite a large one, about eight inches long. There was practically nothing left of the normal kidney except a very small portion at one end of the tumor mass. There were three cysts, each of about two ounces in capacity, in connection with it.

PENETRATING WOUNDS OF THE ABDOMEN.

DR. MALCOLM L. HARRIS read a paper with the above title, for which see page 356.

DR. E. J. SENN mentioned some statistics which emphasized the importance of Dr. Harris's paper. These were the statistics of Siegel, taken from the *Beiträge zur Chirurgie*, 1899, and related to intestinal injuries, showing the great importance of operating early in penetrating wounds of the abdomen where the diagnosis had been made and the peritoneal cavity had been opened. For instance, in all cases operated upon within four hours from the time of intestinal injury there was only a mortality of 15.2 in sixteen cases. He thought Dr. Harris's statistics were still better than these. In those cases that were operated upon from five to eight hours from the time of injury, the mortality was 44.4; in those operated upon from nine to twelve hours after the injury there was a mortality of 63 per cent., showing that these were cases operated upon after perforated peritonitis had occurred. After twelve hours the mortality was about 70 per cent.

In subcutaneous injuries of the abdomen, where blunt force was applied, it was a difficult matter, in his opinion, to make a diagnosis and to know when and when not to operate. He referred to the case of a woman who fell to the ground, striking on the buttocks. This happened about six o'clock at night, after she had partaken of a hearty supper. She retired seemingly without any symptoms. At twelve o'clock that night she was taken with violent abdominal pains. He saw the case the following day in consultation. An operation was advised, agreed to, and performed. A perforation was found in the lower portion of the jejunum about the size of a small finger-nail. This case showed how there could be a severe injury without any immediate symptoms, although he thought the mucous membrane in this case might have protruded in such a way as to have closed off the general peritoneal cavity.

In all cases of perforating wounds of the abdomen, he urged prompt operation. If early operation were done, he believed the mortality would be reduced below 10 per cent. in time to come.

DR. ARTHUR DEAN BEVAN said that in the matter of the treatment of perforating wound of the abdomen he was rather inclined to the opinion that the whole problem rested upon the question of time,—the time element and the opportunity of doing an aseptic operation. Where it was possible to do an aseptic operation inside of two or three hours, there could be little doubt but that operative treatment should be employed, and he thought the results obtained by Dr. Harris in his cases supported that proposition, and furnished surgeons with a strong argument in favor of it. As was shown by the statistics referred to by Dr. E. J. Senn, where the patient was not seen for twelve hours after the injury, it was quite probable that the expectant plan was about as good as the operative method. As a matter of fact, in military experience, the poor fellows who had penetrating wounds of the abdomen were not handled, as a rule, until a considerable period of time had elapsed from the receipt of the injury, a sufficient period in which perforative peritonitis could establish itself. Then, too, in military experience the difficulties of giving patients the benefit of aseptic operations were very great.

He agreed with the conclusions of Dr. Harris, but they should be limited, however, to civil practice. He thought we

should have to accept the very careful analyses of the military surgeons of the last two wars, that in military practice, taking all the difficulties into consideration, the expectant plan was the one by force to be selected.

DR. L. L. McARTHUR thought emphasis should be placed upon prompt interference only under such ideal conditions as would obtain in hospital practice, and of which these patients whose cases had been reported received the benefit. In the cases reported there was undoubtedly a perfect surgical technique in the way of antisepsis and asepsis, and which was ideally carried out. Dr. Harris had everything at hand and a corps of assistants that rendered it possible to invade any part of the abdomen boldly, freely, and safely. These conditions, however, did not obtain in many cases, where the patients were seen not infrequently by a surgeon who was not in hospital practice, or where the patient was kept at home through the desires of the family. Under these circumstances he doubted whether any such results could be obtained.

He asked Dr. Harris if he had employed in bullet wounds of the intestine any particular method of closure, or whether he made his closure to fit the case as occasion required; whether he used, for instance, for a simple round perforation, a puckering-string closure, or the double row Czerny-Lembert suture, and whether he did not believe that in certain abdomens which he opened, although there had been perforation, it was perfectly safe to close them completely.

He was not inclined to the belief that every case of perforating wound of the gastro-intestinal tract required drainage simply because there had been a perforation; but that the decision should be made upon the conditions found, through the escape of infective material or not; inflammatory reaction in the peritoneum or not, and the decision then made. Certainly, he thought it should be as safe to close some of these abdomens as to close, for example, the last two typhoid perforations he had had, in which the typhoid stool filled the abdomen, and yet washing it out with salt solution and closing the abdomen, both of the patients had recovered.

Finally, he asked Dr. Harris to give his opinion as to the advisability of surgical interference after, say, the lapse of time

which Professor Senn had stated, that peritonitis always will have gotten well under way in eighteen hours, or whether it would be better to use the expectant treatment?

DR. S. C. PLUMMER narrated two cases which had not been previously reported. Both were operated upon promptly. The first case was one of stab wound about two inches above and to the right of the umbilicus, with a small portion of the omentum protruding through it. The wound was enlarged and through it an exploration was made, but no injury found to any of the viscera. The exposed portion of omentum was ligated off, and the patient made an uneventful recovery.

The second case was one of bullet wound, the bullet having entered in the axillary line just below the margin of the ribs, and could be felt through the skin in the median line just below the xiphoid appendix. An incision was made in the median line, the bullet removed, and an examination showed the wound of exit on the upper convex surface of the liver, and lying loose upon the liver, near the wound of exit, was a piece of cloth from the clothing which had evidently been carried in by the bullet and had passed clear through the liver. In this case the abdomen was full of blood. The wound of exit in the liver was packed with gauze; the wound of entrance in the liver could not be reached through this incision, consequently another incision was made just below the ribs, and the wound of entrance in the liver packed. He was not able to stop the hæmorrhage by this means, and the patient died a few hours later from hæmorrhage.

DR. JOHN E. OWENS said the practice of the surgeons at St. Luke's Hospital, in penetrating wounds of the abdomen, fully bears out the conclusions of Dr. Harris's paper. The mortality was greatest among those cases in which operations, for some reason or other, had been delayed; but in cases that were operated on early, before peritonitis set in, the mortality was very much less, some of the cases progressing to a successful termination.

There were some freaky bullets. Every wound of the abdomen is not necessarily a penetrating wound. He is treating a man who had received a bullet wound in the left buttock, but the bullet was removed from the right side over the appendix,

it having burrowed under the aponeurosis of the external oblique. There were no abdominal symptoms.

He mentioned the case of a policeman whom he saw some years ago. The policeman was asleep in his room, and was partially aroused, but sufficiently awake to find that there was someone in the room tugging at his trousers, which were lying on a chair beside the bed. He jumped out of bed and grabbed a burglar. As they got towards the door, the policeman getting a little better of the man, the burglar's accomplice fired and struck the patient in the abdomen. He examined the abdomen, but symptoms were absent except a slight stinging pain. The pulse was not accelerated. He did not examine the back at the time, but in a day or two did so, and there was a bullet wound to the left side of the spinal column. The bullet was discovered under the skin. It had not passed into the cavity.

He recommended a careful dissection, when in doubt, through the abdominal wall until the peritoneum was reached. If a perforation was found, proceed with the operation, otherwise he would let the case alone.

He saw a man a few years ago who had received two bullet wounds in the abdominal wall. He never had a symptom or any intra-abdominal complication. He was quite interested to know how the man received these two bullet wounds, but the information was not forthcoming. There was no operation in this case, as there were no symptoms requiring it. Perhaps to-day one might be tempted to go into the abdominal cavity, if not for one bullet wound, certainly for two. Still, he did not in this case, and yet the patient recovered. This, however, did not weaken the conclusions arrived at by Dr. Harris.

DR. HARRIS, in closing the discussion, said he prefaced his paper with the statement that his remarks would apply entirely to civil practice, as he had not had any experience in military practice, for the purpose of excluding the question of practice in the military service. He thought the subject of the treatment of wounds in military practice was very much confused. Of course, surgeons knew the great disadvantages under which the military surgeon labored,—the difficulty of getting patients early for operation. The secret of success is early operation in these cases.

Hildebrand, who was in South Africa during the war, in an article on the subject, stated that so far as he knew there was not a single case operated under three days. He (Harris) believed, however, that in the future military practice would change materially with the increased facilities regarding portable hospitals, and with drainage surgeons would get better results. The secret of success in these cases would be proper and suitable drainage. He did not think it depended so much on the surroundings of the patient, the hospital operating room, etc., and believed that drainage would largely take the place of them.

As to the kind of suture used, he employed the ordinary suture, not the puckering-string particularly. The wounds were sutured transversely to the axis of the bowel when possible, the first row of sutures taking in all the coats, and this turned in by the usual Lembert suture.

As to drainage, all wounds in which the intestine has been perforated should be drained; not that some of the cases will not recover without drainage, but theoretically, at least, it was impossible to conceive of a bullet penetrating or perforating the intestine without the escape of infective material, consequently every one of these wounds should be considered theoretically an infected wound. He did not know how to differentiate as to which cases would recover without drainage and which would require drainage. It was known that the peritoneum would take care of a great deal of infective material. He had closed some of his cases without drainage, and some had recovered, while others had not. But in the last series of cases he was as convinced as he could be of anything that drainage contributed to the recovery of a number of them. The fact was that every one of these penetrating, perforating wounds of the intestinal tract was theoretically an infected wound. Drainage, therefore, was a very important factor in contributing to the recovery.

As to operating after peritonitis had developed, this was a difficult question to answer. He believed, however, the surgeon would have to exercise his best judgment in the individual case. After peritonitis had set in the chances of recovery were not very good. Personally, however, as a rule, he thought a patient with peritonitis was better if operated on than he was without operation, and, judging from experience in cases of perforative

appendicitis with so-called general or extensive peritonitis, by operating it was found that the percentage of recoveries was constantly increasing. For that reason he would be in favor of operating on these cases even after peritonitis had developed, as a rule, the surgeon exercising his best judgment.